EPA/AMD/R03-96/235
1996

EPA Superfund
Record of Decision Amendment:

RENTOKIL, INC. (VIRGINIA WOOD PRESERVING DIVISION)
EPA ID: VAD071040752
OU 01
RICHMOND, VA
08/27/1996

RECORD OF DECISION AMENDMENT
RENTOKIL, INC.

Declaration

Site Name and Location
Rentokil, Inc.
Henrico County, Virginia

Statement of Basis and Purpose

This decision document revises the Record of Decision (ROD) signed on June 22, 1993, for the Rentokil, Inc. Site (Site), in Henrico County, Virginia. The revised remedy was chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. § 9601 et seq., and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. This decision document explains the factual and legal basis for revising the remedy for this Site. The information supporting this remedial action decision is contained in the Administrative Record for this Site.

The Virginia Department of Environmental Quality concurs with the amended remedy.

Assessment of the Site

Pursuant to duly delegated authority, I hereby determine, pursuant to Section 106 of CERCLA, 4Z U.S.C. §9606 that actual or threatened releases of hazardous substances, pollutants or contaminants from this Site, if not addressed by implementing the response action selected in this Record of Decision, may present an imminent and substantial endangerment to public health, welfare, or the environment.

Description of the Selected Remedy

This ROD Amendment revises the remedy previously selected by deleting the requirement for treatment of "hot spots" at the Site. This ROD Amendment will be the final Record of Decision for the Site. The principal threats associated with the "hot spots" are contaminated soils containing hazardous substances.

The amended remedy includes the following major components:

(1) Demolition of Existing Structures
(2) Removal of Unlined Pond
(3) Drum disposal
(4) Soil Consolidation Prior to Capping
(5) Construction of Multilayer Cap, Slurry Wall, and Dewatering System
(6) Sediment Excavation and Disposal
(7) Institutional Controls
(8) Ground Water Monitoring

Declaration of Statutory Determinations

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. This remedy utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable, and it satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element.

Because this remedy will result in hazardous substances remaining onsite above health-based levels, a review will be conducted within five years after commencement of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment. Such reviews will be conducted every five years thereafter until EPA determines that the cleanup levels set forth in this ROD have been achieved, or that the hazardous substances remaining at the Site do not prevent unlimited use and unrestricted exposure at the Site.

<IMG SRC 0396235>
Thomas C. Voltaggio
Director, Hazardous Waste Management
Region III

<IMG SRC 0396235A>
Date

DECISION SUMMARY

A. INTRODUCTION

The Rentokil Inc. Site (the Site) is located at 3000 Peyton Street at the intersection of Peyton Street and Ackley Avenue in Henrico County, near Richmond, Virginia (see Figure 1 - Regional Location Map). The Site is a former wood treatment facility which ceased operating in January 1990. The land immediately surrounding the Site is mostly open space/woodlands. Nearby development is comprised of light industrial, commercial, and low density residential. The Site and surrounding land are presently zoned for light and general industry. For more information on the Site name, Site location, Site description, Site history, enforcement activities, and community participation activities conducted prior to June 1993 refer to Sections A through C of the Record of Decision issued on June 22, 1993.

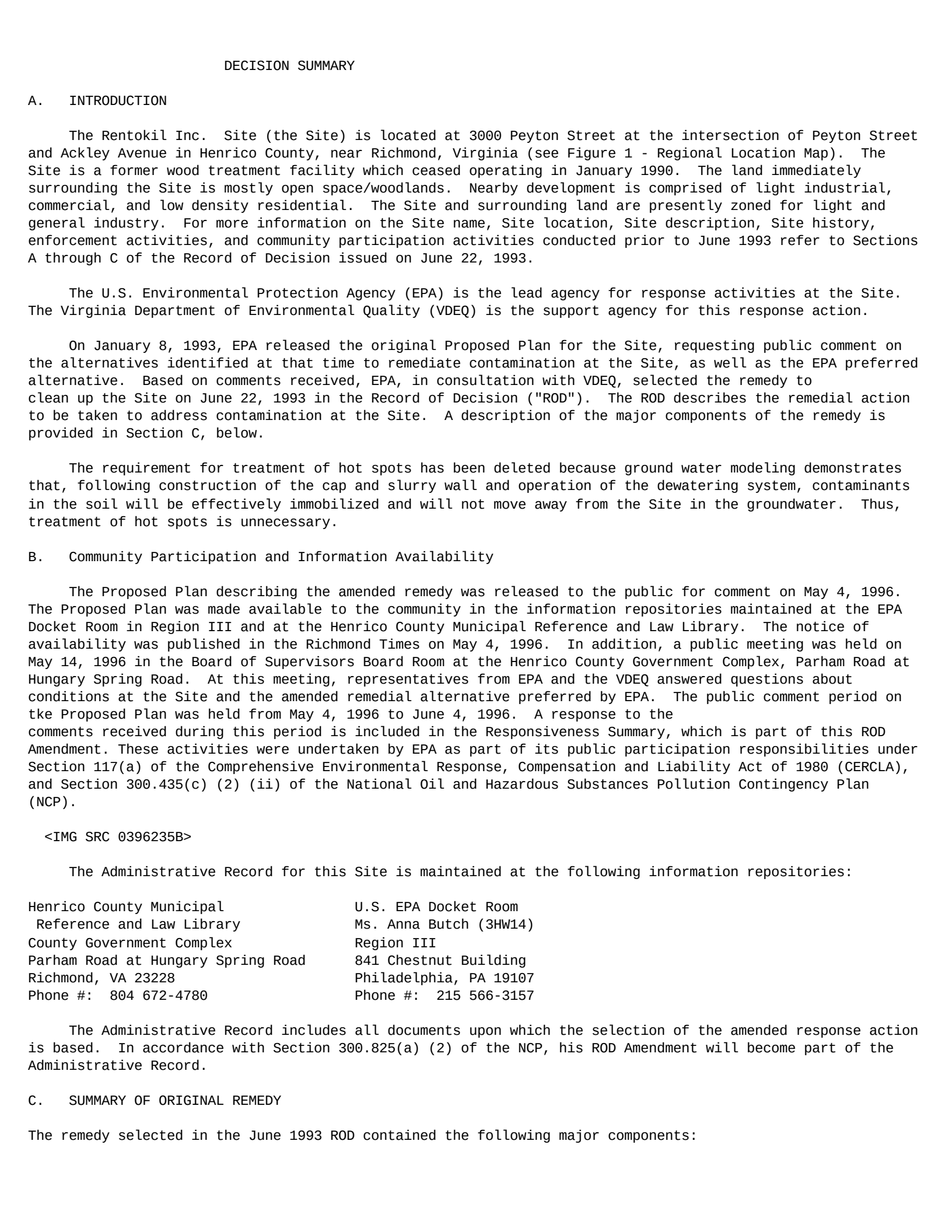
The U.S. Environmental Protection Agency (EPA) is the lead agency for response activities at the Site. The Virginia Department of Environmental Quality (VDEQ) is the support agency for this response action.

On January 8, 1993, EPA released the original Proposed Plan for the Site, requesting public comment on the alternatives identified at that time to remediate contamination at the Site, as well as the EPA preferred alternative. Based on comments received, EPA, in consultation with VDEQ, selected the remedy to clean up the Site on June 22, 1993 in the Record of Decision ("ROD"). The ROD describes the remedial action to be taken to address contamination at the Site. A description of the major components of the remedy is provided in Section C, below.

The requirement for treatment of hot spots has been deleted because ground water modeling demonstrates that, following construction of the cap and slurry wall and operation of the dewatering system, contaminants in the soil will be effectively immobilized and will not move away from the Site in the groundwater. Thus, treatment of hot spots is unnecessary.

B. Community Participation and Information Availability

The Proposed Plan describing the amended remedy was released to the public for comment on May 4, 1996. The Proposed Plan was made available to the community in the information repositories maintained at the EPA Docket Room in Region III and at the Henrico County Municipal Reference and Law Library. The notice of availability was published in the Richmond Times on May 4, 1996. In addition, a public meeting was held on May 14, 1996 in the Board of Supervisors Board Room at the Henrico County Government Complex, Parham Road at Hungary Spring Road. At this meeting, representatives from EPA and the VDEQ answered questions about conditions at the Site and the amended remedial alternative preferred by EPA. The public comment period on tke Proposed Plan was held from May 4, 1996 to June 4, 1996. A response to the comments received during this period is included in the Responsiveness Summary, which is part of this ROD Amendment. These activities were undertaken by EPA as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), and Section 300.435(c) (2) (ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).



The Administrative Record for this Site is maintained at the following information repositories:

Henrico County Municipal	U.S. EPA Docket Room
Reference and Law Library	Ms. Anna Butch (3HW14)
County Government Complex	Region III
Parham Road at Hungary Spring Road	841 Chestnut Building
Richmond, VA 23228	Philadelphia, PA 19107
Phone #: 804 672-4780	Phone #: 215 566-3157

The Administrative Record includes all documents upon which the selection of the amended response action is based. In accordance with Section 300.825(a) (2) of the NCP, his ROD Amendment will become part of the Administrative Record.

C. SUMMARY OF ORIGINAL REMEDY

The remedy selected in the June 1993 ROD contained the following major components:

(1) Demolition of Existing Structures

(2) Removal of Unlined Pond

(3) Excavation and onsite treatment of "hot spots"

(4) Drum disposal

(5) Soil Consolidation Prior to Capping

(6) Construction of a Multilayer Cap, Slurry Wall, and Dewatering System

(7) Sediment Excavation and Disposal

(8) Institutional Controls to prevent residential use of the Site and use of the ground water.

(9) Ground water monitoring

D. RATIONALE FOR CHANGING REMEDY SELECTED IN 1993 ROD

As part of the remedial design, Rentokil, Inc. performed a Value Engineering analysis to evaluate the cost-effectiveness of the design. Ground water modeling was performed as part of this analysis to evaluate the movement of the existing pentachlorophenol contaminated ground water plume. This modeling demonstrated that, following construction of the containment system-cap and slurry wall-and operation of the dewatering system, contaminants in the soil will be effectively immobilized and will not move away from the containment area in the ground water. EPA has reviewed the ground water modeling and agrees with its conclusions.

Because the Site is underlain with a tight bedrock, keying the slurry wall into the bedrock near the perimeter of the Site will form a low permeability barrier. Construction of a RCRA Subtitle C cap over the area of the former wood treatment facility will effectively prevent precipitation from permeating through the soil. Finally, operation of the dewatering system will remove whatever ground water is present under the cap.

Once all of the presently existing ground water is removed, the dewatering system will form an inward gradient of ground water into the containment area. Thus, contaminants in the ground water will be prevented from dispersing away from the containment area. At the time EPA issued the ROD, EPA required treatment of soils in areas where the highest levels of contamination were expected. The findings from the ground water modeling have demonstrated, however, that the containment system designed for this Site would effectively prevent migration of the existing contamination under the former wood treating area and that treatment of the "hot spots" is not warranted. As a result, EPA has evaluated and agreed to change the cleanup plan for the Site, removing the requirement for treatment of "hot spots" prior to construction of the cap and slurry wall.

E. DESCRIPTION OF REVISED REMEDY

The proposed amended remedy contains the following major components (all of which were part of the originally selected remedy):

(1) Demolition of Existing Structures: Existing structures at the Site will be demolished, decontaminated, and transported offsite for disposal.

(2) Removal of Unlined Pond: Surface water in the unlined pond will be removed, treated to safe levels through onsite carbon adsorption, and discharged to North Run Creek. Approximately 70 cubic yards of K001 waste will be excavated and transported offsite to be incinerated (onsite dechlorination of waste will be performed if required prior to offsite incineration). The unlined pond will then be closed in accordance with Virginia Hazardous Waste Management Regulations (VHWMR).

(3) Drum disposal: Any drums excavated from the Fill Area will be disposed offsite.

(4) Soil Consolidation Prior to Capping: Site surface soils (0-2 feet in depth) which lie outside the area to be capped and exceed Site-specific cleanup levels (approximately 7,200 cubic yards) will be excavated and placed in the area of the Site to be capped (generally, these soils occur in Wetlands A, B, and C).

Soils in Wetlands A, B, and C will require dewatering prior to excavation. Water from this process will be treated in the onsite water treatment system (discussed below) prior to discharge to North Run Creek. Excavated wetlands will be revegetated with appropriate plant species as approved by EPA.

(5) Multilayer Cap, Slurry Wall, and Dewatering System Construction: A multilayer RCRA Subtitle C cap will be constructed over approximately ten acres of the Site where contamination in the surface soil exceeds the Site-specific cleanup levels. The cap will extend into the wetlands to the extent possible. Wetlands lost due to capping will be replaced. A slurry wall will be constructed around the perimeter of the cap to ensure the contamination is adequately contained. A dewatering system will be constructed inside of cap/slurrywall to keep groundwater within the slurry wall from building up and creating pressure on the slurry wall and to treat any DNAPL collected. Water from the system will be treated onsite by carbon adsorption and, if necessary, precipitation of metals. Treated ground water will be discharged to North Run Creek. The water will be treated to levels that meet the substantive requirements of a Virginia Pollution Discharge Elimination System (VPDES) permit.

(6) Sediment Excavation and Disposal: Sediments in the oxbow of North Run Creek north of the Site will be excavated and disposed in the area onsite to be capped. Sediments in Talley's Pond and sediments previously dredged by the owner ofthe Pond will be sampled. Sediments in or previously dredged from Talley's Pond which exceed the Site-specific cleanup goals will be excavated, treated onsite by Low Temperature Thermal Desorption (LTTD), and disposed offsite.

(7) Institutional Controls: Deed restrictions will be required to prohibit residential development of the Site and/or use of the ground water.

(8) Ground Water Monitoring: Long-term ground water monitoring will be performed for at least 30 years.

F. EVALUATION OF ALTERNATIVES

The following summary discusses the performance of the proposed cleanup plan in terms of the nine evaluation criteria, noting how it compares to the originally selected remedy. This summary focuses only on the issue of how treating or not treating the "hot spots" prior to capping affects the overall performance of the cleanup plan since this is the only change proposed to the remedy for the Site. The nine criteria can be categorized into three groups: threshold criteria, primary balancing criteria, and modifying criteria. The criteria associated with each category are as follows:

THRESHOLD CRITERIA

Overall protection of human health and the environment

Compliance with applicable or relevant and appropriate requirements (ARARs)

PRIMARY BALANCING CRITERIA

Long-term effectiveness

Reduction of toxicity, mobility, or volume through treatment

Short-term effectiveness

Implementability

Cost

MODIFYING CRITERIA

Community acceptance

State acceptance

These evaluation criteria relate directly to the requirements of Section 121 of CERCLA 42 U.S.C. § 9621 which are used to determine the overall feasibility and acceptability of the remedy. Threshold criteria must be satisfied in order for a remedy to be eligible for selection. Primary balancing criteria are used to weigh major trade-offs between remedies. Support agency and community acceptance are modifying criteria which are taken into account after public comment is received on the Proposed Plan.

Overall Protection of Human Health and the Environment

Both the original and the revised cleanup plan provide overall protection of human health and the environment. Under both plans, the area of contaminated soil will be covered with a RCRA Subtitle C cap, thereby eliminating any direct contact with the soil. Both plans are also effective in protecting further migration of contamination to the groundwater.

Compliance with ARARs

The key ARARs associated with contaminated soil at the Site are the RCRA Land Disposal Restrictions, 40 C.F.R. Part 268, that limit the type and concentration of hazardous wastes that can be land disposed. These requirements are applicable when hazardous wastes regulated under RCRA are present at a Site and are being placed in a land disposal unit or facility. Virginia also has similar land disposal restrictions under its hazardous waste management regulations. Although the Site soils contain hazardous wastes regulated under RCRA (i.e. F032, F034, and F035 listed wastes which are drippage from wood treatment processes which utilize PCP, creosote, or arsenic solutions, respectively), RCRA Land Disposal Restrictions for these F wastes have not yet been promulgated. The original cleanup plan, including the provision of consolidating the wetland soil under the cap, complied with all ARARs, including the RCRA land Disposal Restrictions and the Virginia requirements. The RCRA Land Disposal Restrictions and equivalent state regulations would not apply since soils from the "hot spots" would not be excavated and treated under the revised cleanup plan.

Long-Term Effectiveness and Permanence

The original cleanup plan provided a higher degree of long-term effectiveness and permanence than the revised remedy because the highest levels of contamination in the soil would have been eliminated through treatment. However, the ground water modeling demonstrates that, because the hydrogeology of the area limits migration of contaminated ground water, the cap and slurry wall system, in conjunction with the dewatering system, will effectively prevent further migration of contaminated ground water at the Site because an inward gradient of ground water into the Site will be created. Therefore, the revised cleanup plan is considered equally protective over the long term as the original plan. Both alternatives include treatment of the ground water recovered by the dewatering system within the cap and slurry wall and institutional controls prohibiting use of ground water and residential development at the Site. In addition, because high levels of contamination in the soil remain and there have been discussions concerning non-residential development of

the Site after construction of the remedy is complete, design and construction of the cap will take into account future development of the Site so that the cap will not be disrupted after construction is completed. Institutional controls will be implemented to ensure that the integrity of the cap is maintained. These requirements ensure the long-term effectiveness and permanence of the selected remedy.

Short-Term Effectiveness

The revised cleanup plan would have fewer short-term impacts than the original plan because the revised plan would take less time to implement and will not create disruptions associated with soil treatment (e.g. truck traffic, dust associated with excavation, staging of the soil prior to and after treatment, and the noise and emissions associated with the treatment system itself).

Reduction of Toxicity, Mobility, or Volume through Treatment

The original cleanup plan would reduce the toxicity and volume (though not mobility) of Site contaminants through treatment to a greater extent than the revised plan because the highest levels of soil contamination would have been treated and removed using low temperature thermal desorption. This added reduction would not, however, increase the overall effectiveness because, as discussed previously, the ground water modeling shows mobility of contaminants in the ground water away from the Site would be the same under either action.

Implementability

Overall, both the original cleanup plan and the revised plan can be readily implemented, however, the revised plan is easier to implement because on-site treatment of soils is not required. Regarding the original cleanup plan, bench-scale treatability testing conducted during the pre-design phase has shown that low temperature thermal desorption can meet the health-based cleanup levels for organics set forth in the ROD. If treatment standards for F032, F034, and F035 listed wastes are promulgated prior to cleanup at the Site, the contaminated soil would have to be treated to these new levels. Although low temperature thermal desorption is likely to meet the new levels for organic contaminants, treatment levels established for arsenic could be a problem because arsenic is not effectively removed in the low temperature thermal desorption process.

Cost

The cost of the revised cleanup plan is approximately $12,000,000 while the present estimate of the cost of the original cleanup plan is approximately $22,500,000.

State Acceptance

VDEQ served as the lead agency for the Commonwealth of Virginia for the CERCLA response activities at the Rentokil, Inc. Site. VDEQ has reviewed the remedial alternatives under consideration for the Site and has provided EPA with technical and administrative requirements for the Commonwealth of Virginia. VDEQ has reviewed the amended ROD and concurs with the amendment as discussed below.

Community Acceptance

The Proposed Plan to Amend the ROD was released on May 4, 1996 to solicit public comment regarding the proposed revised cleanup plan. At that time a 30-day comment period was opened. A public meeting on the Proposed Plan was held on May 14, 1996 at the Henrico County Government Complex. Although comments were raised at the public meeting, no objections were voiced. The comments are summarized in the Responsiveness Sumnary which is included in this ROD Amendment. No written comments were submitted to EPA during the public comment period.

G. AMENDED REMEDY

Following review and consideration of the information in the Administrative Record file, the requirements of CERCLA, the NCP, and public comment, EPA has selected the revised cleanup plan as the selected remedy. Specifically, the selected remedy, which satisfies Section 121 of CERCLA, 42 U.S.C. §9621 includes:

(1) Existing Structures

Demolition, decontamination, and offsite disposal of the existing structures at the Site.

(2) Unlined Pond

Excavation and offsite incineration of approximately 70 cubic yards of K001 waste (including onsite dechlorination if the level of dioxins/furans in the waste would cause a violation of the incinerator's RCRA permit if incinerated without prior treatment).

Removal and onsite carbon adsorption treatment of the surface water in the unlined pond with discharge to North Run Creek; and closure of the unlined pond.

(3) Soil

Movement of Site surface soils (0-2 feet--approximately 7,200 cubic yards) which lie outside the area to be capped, and which exceed any Site-specific cleanup level, to the area of the Site to be capped (generally these soils occur in Wetlands A, B, and C).

Offsite disposal of all drums excavated from the Fill Area. Dewatering of contaminated soil in Wetlands A, B, and C prior to excavation, and treatment of the water in the onsite water treatment system prior to discharge to North Run Creek. The discharge of treated water will meet the substantive requirements of a VPDES permit. Planting of excavated wetlands with wetland vegetation as approved by EPA. Mitigation of wetland loss due to capping with creation of wetlands of equal or better value as approved by EPA.

(4) Containment

Construction of a RCRA Subtitle C cap over the Site where the surface soil exceeds the Site-specific cleanup levels stated above and as far into the wetlands as possible.

Construction of a slurry wall around the perimeter of the cap. Construction of a dewatering system inside of cap/slurry wall to produce an intragradient condition with onsite treatment of ground water by carbon adsorption and, if necessary, precipitation of metals; discharge of treated ground water to North Run Creek;

(5) North Run Creek and Talley's Pond

Excavation and onsite disposal of sediments in the oxbow of North Run Creek north of the Site.

Sampling of sediments in Talley's Pond and sediments previously dredged by the owner of the Pond. Excavation, treatment, and offsite disposal of the sediments in or previously dredged from Talley's Pond which exceed the Site-specific cleanup goals.

(6) Institutional Controls

Implement institutional controls to prohibit residential development of the Site and use of ground water at the Site.

(7) Ground Water Monitoring

Long-tem ground water monitoring (at least 3 years).

Performance Standards

The selected remedy addresses all of the contaminated media at the Site. By instituting all of these components, the Site risks will be reduced to within EPA's acceptable risk range. The performance standards for the major components of the selected remedy include the following:

(1) Existing Structures

To reduce the risk to human health and the environment via the exposure pathways attributed to the existing structures on the Site, the concrete drip pad, holding pond, shop, office, and shed will be demolished, cleaned of any residual soil, decontaminated, and disposed of in accordance with

Part VIII of the Virginia Solid Waste Management Regulations (VSWMR) and as approved by EPA. Decontamination and disposal must also meet the requirements of 40 C.F.R. Part 268. Waste water generated during the decontamination will be collected, treated and discharged to North Run Creek. The discharge of treated water will meet the substantive requirements of a VPDES permit.

(2) Unlined Pond

To reduce the risk to human health and the environment via the exposure pathways attributed to the unlined pond, surface water in the pond will be removed, treated, and discharged to North Run Creek. Closure and post closure of the unlined pond will be performed in accordance with the VHWMR. The discharge of treated water from the unlined pond will meet the substantive requirements of a VPDES permit.

To reduce the risk to human health and the environment via the exposure pathways attributed to the K001 waste, approximately 70 cubic yards of K001 waste will be excavated from the unlined pond and incinerated (the Best Demonstrated Available Technology for K001 waste) at an offsite facility approved by EPA and operating in accordance with, among other things, 40 C.F.R. Part 264, Subpart O. If the level of dioxins/furans in the K001 waste exceeds the level which the incinerator is permitted to accept, the K001 waste will be dechlorinated onsite to bring the level of dioxins/furans down to a level at or below that specified in the incinerator's permit prior to shipment.

(3) Soil

To reduce the risk to human health and the environment via the exposure pathways attributed to the surface soil in areas beyond the extent of the cap that exceed the cleanup levels of 5.1 mg/kg carcinogenic PAHs, 48 mg/kg PCP, or 33 mg/kg arsenic, approximately 7,200 cubic yards of soil will be moved to the area to be capped prior to construction of the cap. Excavated wetlands will be restored to the appropriate contours and revegetated with a diverse community of indigenous species as approved by EPA.

(4) Containment

To reduce the risk to human health and the environment via the exposure pathways attributed to the surface soil at the Site, a cap will be constructed over a portion of the Site which meets the requirements of RCRA Subtitle C, and regulations promulgated thereunder, particularly the closure requirements at 40 C.F.R. Part 264, Subpart N. Because the soils in areas with the highest levels of contamination would remain under the cap, the design and construction of any planned development of the Site must be incorporated into the design and construction of the cap to prevent exposure to these soils. The cap will be approximately 11.5 acres in size. The cap is not expected to cover all of the contaminated portions of Wetlands A, B, and C. The loss of wetlands through capping will be mitigated by the creation of wetlands of equal or better value. All wetland restoration and monitoring must be approved of by EPA.

To reduce the risk to human health and the environment via the exposure pathways attributed to the migration of ground water from the Site, a slurry wall will be constructed around the perimeter of the cap and a dewatering system will be constructed within the slurry wall to create an intragradient condition. The dewatering system will consist of two vertical caissons constructed to the bedrock with horizontal laterals installed on top of the hardpan and on top of the bedrock. Construction techniques will be implemented to prevent the migration of ground water or DNAPLs along the caissons through the hardpan. The horizontal laterals will be installed with clean washed gravel or gravel packs. The ground water collected in the horizontal laterals will be treated via carbon adsorption and, if necessary, precipitation of metals, prior to discharge to North Run Creek. The ground water will be treated to comply with the substantive requirements of a VPDES permit for discharge to North Run Creek. The carbon from the carbon adsorption will be regulated at an offsite facility approved by EPA. All sludges generated will be disposed of at an offsite facility approved by EPA.

(5) North Run Creek and Talley's Pond

To reduce the risk to human health and the environment via the exposure pathways attributed to sediments in the oxbow of North Run Creek north of the Site, sediments exceeding the cleanup levels of 5.1 mg/kg carcinogenic PAHs, 48 mg/kg PCP, and/or 33 mg/kg arsenic will be moved to the area of

the Site to be capped.

To ascertain that the remedy is protective of human health and the environment, the sediments in Talley's Pond and the sediments that were previously dredged by the owner of Talley's Pond will be sampled to determine whether they exceed any cleanup levels for the Site. If the sediments exceed a cleanup level(s), the sediments will be excavated, treated, and disposed of at an offsite facility approved of by EPA.

(6) Institutional Controls

To restrict access to the soil at the Site, institutional controls prohibiting residential development at the Site will be implemented.

To restrict access to the contaminated ground water under the Site, institutional controls prohibiting use of the ground water will be implemented.

(7) Ground Water Monitoring

To determine if MCLs are being met at the boundary of the Site, long-term ground water monitoring will be performed for at least thirty years. The ground water monitoring will include sampling for arsenic, chromium, copper, zinc, PAHs, and PCP. The appropriate number and location of the monitoring wells will be determined during the design phase.

EPA may modify or refine the selected remedy during the remedial design and construction. Such modifications or refinements, if any, would generally reflect results of the engineering design process.

H. DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan, which identified the revised cleanup plan as EPA's preferred alternative for the Site, was released for public comment on May 4, 1996. EPA has reviewed the verbal comments expressed at the May 14, 1996 public meeting (no written comments were submitted to EPA during the 30-day public comment period which ended June 4, 1996) and determined that no significant change to the remedy identified in the Proposed Plan is necessary.

RENTOKIL, INC. SITE
HENRICO COUNTY, VIRGINIA

RESPONSIVENESS SUMMARY
August 1996

This Responsiveness Summary documents public concerns and comments expressed during the public comment period. The Summary also provides EPA's responses to those comments. The information is organized as follows:

Overview

Summary of Comments and Questions Expressed During Public Meeting and EPA Responses

I. Overview

The 30-day public comment period for the amended remedy for the Rentokil, Inc. Site began on May 4, 1996 and ended on June 4, 1996. To facilitate commenting, EPA held a public meeting at the Board of Supervisors Board Room at the Henrico County Government Complex on May 14, 1996.

At the meeting, EPA discussed the ground water modeling performed for the Site as part of the Value Engineering analysis during the design phase. EPA also presented the Proposed Plan for deleting treatment of "hot spots" at the Site. EPA explained that the ground water modeling indicated that the "hot spots" treatment had virtually no impact on the ground water contamination at the Site. EPA also explained that the remainder of the previously selected remedy would be implemented as originally planned, including:

demolition of existing structures on the Site;

removal of the unlined pond;

drum disposal;

soil consolidation prior to capping;

construction of multilayer cap, slurry wall, and dewatering system;

sediment excavation and disposal;

institutional controls; and

long-term ground water monitoring.

The May 14, 1996 public meeting also provided the opportunity for the public to ask questions and express opinions and concerns. During the meeting, residents expressed concerns on the limits of sampling down stream of the Site, the depth and width of the slurry wall, the possibility of re-use of the Site, the capping of wells where public water was installed, the length of monitoring the ground water at the Site, and who is responsible to pay for the cleanup of the Site.

The comments and questions expressed during that meeting and EPA's responses to those comments and questions are described in the following summary.

II. Summary of Comments and Questions Expressed During Public Meeting and EPA's Responses

Questions presented at the May 14, 1996 public meeting are summarized briefly in this section and are grouped according to subject. The EPA response follows each question presented.

1. A resident asked if the sediments in the wetland on the other side of Ackley Avenue and down stream of the wetland were sampled for contamination from the Site.

EPA Response: The wetland on the other side of Ackley Avenue and the down stream areas were not sampled for the reason indicated below. As shown on Figure 1, Wetland C is located at the southwest corner of Ackley Avenue and Peyton Street, across Peyton Street from Wetland B. The wetland the resident refers to is at the southeast corner of Ackley Avenue and Peyton Street, across from Wetland C. Wetlands B and C are

connected by two 18" culverts under Peyton Street. Surface runoff discharges from the Site thr6ugh a ditch to Wetland B, where it is retained and discharges to wetland C when flow is high. Ditches have been artificially cut into Wetland C approximately 60 feet south of the outlet of each culvert. A ditch parallel to the south side of Peyton Street carries runoff from Wetland C to the east and ultimately to a 24" culvert under Ackley Avenue. Because the invert of the 24" culvert is about 2 feet above the flow line of the south ditch and the normal elevation of Wetland C, Site-related runoff waters are retained within Wetland C.

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2. A resident asked if the slurry wall proposed to be constructed at the perimeter of the Site would be 25-foot deep.

EPA Response: The slurry wall will be keyed into the granite bedrock, which varies between 25 to 30 feet deep.

3. A resident asked how do we know that contamination will not escape through the slurry wall.

EPA Response: Based on actual treatability testing of the Site soil with different types of bentonite, permeabilities in the 10-7 to 10-8 cm/sec range can be achieved. Also, once the area within the slurry wall and cap is drained, an inward gradient of ground water will be created. At that time, the level of ground water in the area outside the slurry wall will be higher than the level within the slurry wall. As such, any flow of ground water through the slurry wall would be into the slurry well/cap area rather than to the outlying aquifer.

4. A resident asked what happens to the soil that is excavated to install the slurry wall.

EPA Response: Most of the excavated soil from the slurry wall trench will be used to form the slurry wall. The slurry wall mix contains only 1% bentonite. If there are any soils remaining after construction of the slurry wall, they will also be consolidated onto the surface of the Site prior to construction of the cap.

5. A resident asked how long will the site remain contaminated.

EPA Response: It is conceivable that the organic contamination (i.e., pentachlorophenol as well as the PAHs associated with creosote), will biodegrade over time. In addition some scientists theorize that DNAPLs move more freely when they are taken out of the water phase, such as what will occur when the dewatering system lowers the ground water level within the area of the slurry well and cap. If the DNAPLs do move more freely, a substantial amount of contamination will be collected in the dewatering system. The inorganic contamination (i e., arsenic, copper, chromium, and zinc associated with the CCA and CZA treatment solutions) might never be removed since they do not biodegrade and they tend to strongly adhere to soil particles. Although the purpose of this ROD Amendment is to delete treatment of the "hot spots", EPA believes the Site would remain contaminated for just as long as under the original ROD since the original ROD also did not include treatment of all of the soils at the Site.

6. A resident asked if it will be safe to allow people to work at the Site after remediation is completed.

EPA Response: It will be safe for people to work at the Site after the cap is constructed since the cap will prevent direct exposure to the Site contaminants.

7. A resident asked whether the $10,500,000 difference between the cost of the original cleanup plan and the cost of this revised cleanup plan is due entirely to the excavation and treatment of the "hot spots."

EPA Response: Most of the cost difference is associated with excavation, sampling, and staging the "hot spot" still requiring treatment. At the time of the original ROD, the amount of soil requiring treatment was estimated to be 5,150 cubic yards. Based on more precise measurements during the design, that amount had increased to 12,000 cubic yards. Another large portion of the cost difference is the cost of treating surface water during remediation. It should be noted that the cost of treating surface water during remediation was not included in the original cost estimate.

8. A resident asked whether their domestic wells should be abandoned where public water was made available.

EPA Response: Since the ground water contamination did not reach these wells, there is no reason to abandon these wells. However, the monitoring wells installed during the investigation of the Site should be abandoned in accordance with Henrico County requirements.

9. A resident asked how additions/modifications or new construction is handled.

EPA Response: Rentokil, Inc. is legally responsible to maintain the integrity of the cap. Since contamination will remain at the Site after remediation is complete, a review of the Site will be performed at least every five years to determine if the remedy is still protective of human health and the environment. This will include a review of whether the cap is still being maintained.

10. A resident asked who will make sure the contamination is still being contained at the Site.

EPA Response: As stated in the response to Number 9 above, a review of the Site will be performed at least every five years to assure that the remedial action remains protective of human health and the environment, including whether the cap is being maintained. An analysis of whether the ground water contamination is being contained will be part of this review.

11. A resident asked why the long-term ground water monitoring extends for only for 30 years.

EPA Response: The original ROD actually states that the long-term ground water monitoring shall be performed for at least 30 years. The period over which a remedial action requires maintenance and/or operation (the period of performance) is an important factor in present worth analyses. It is EPA policy that the period of performance for remedial action alternatives requiring perpetual care should not be costed beyond thirty years. Therefore, the 30-year period is the time frame EPA uses in order to compare differing remedial alternatives to cleanup Superfund sites.

As stated in the response to Number 9 above, a review of the Site will be performed at least every five years to assure that the remedial action remains protective of human health and the environment. In accordance with Paragraph IX of the Consent Decree between EPA and Virginia Properties, Inc. (VPI), VPI shall conduct any studies and investigations as requested by EPA in order to permit EPA to conduct reviews at least evary five years. Further, the Consent Decree states that if the Regional Administrator, EPA Region III, or his/her delegate determines that information received, in whole or in part, during the review conducted indicates that the Remedial Action is not protective of human health and the environment, VPI shall undertake any further response actions EPA has determined are appropriate and that are not barred by the Covenant Not to Sue. Should EPA determine that the remedy selected for the Site is no longer protective of human health and the environment, EPA shall direct VPI to perform additional response actions.

12. A resident asked who is responsible for the Site contaminants after the buildings have outlasted their longevity?

EDA Response: As a requirement of the Consent Decree, VPI shall record a certified copy of the Consent Decree with the Recorder's Office (or Register of Deeds or other appropriate office), Henrico County, Virginia. Thereafter, each deed, title, or other instrument of conveyance for property included in the Site shall contain a notice stating that the property is subject to this Consent Decree...and shall reference the recorded location of the Consent Decree and any restrictions applicable to the property under this Consent Decree. The obligations of VPI with respect to the provision of access and the implementation of institutional controls shall be binding upon VPI and any and all persons who subsequently acquire such interest.

13. A resident asked whether the ground water contaminants would move while the slurry wall is being constructed.

EPA Response: Contaminant movement has been slow to date and it is unlikely that contaminants would move beyond their present location because of construction of the slurry wall. Construction of a slurry wall is a very dynamic operation. Asthe trench is being excavated, the previously excavated soil is being mixed with bentonite, tested, and then re-deposited back into the trench. Testing of the mixture of soil and bentonite must be done prior to re-depositing back into the trench to make sure the mixture meets or exceeds the performance standards of permeability. As a precaution, ground water monitoring is performed during the construction of the entire remedy to monitor for accelerated movement of the ground water plume.

14. A resident asked whether Henrico County taxpayers are paying for the Site cleanup.

EPA Response: Through the Consent Decree between EPA and VPI, VPI agreed to pay all costs associated with the Site cleanup including the construction costs, the engineering costs, and the oversight costs incurred by

EPA, their contractors, and VDEQ.

15. A resident made a comment that she supported the idea of re-using the Site by constructing buildings on top of the cap which could generate both jobs and tax revenues for Henrico County.

EPA Response: Comment noted.